REMARKS

Claims 1, 5 - 6, 10 - 16 and 22 have been rejected under 35 U.S.C. §103 as being unpatentable over Callison et al. (U.S. 6,370,611) and Yao et al. (U.S. 6,021,464).

In making that rejection, the Examiner has acknowledged that Callison et al. fails to teach a cache coupled to the memory controller and having stored therein one or more copies of a Data Allocation Table (DAT) describing the data stored in the memory devices, and he relies upon Yao et al. as disclosing a data allocation table. This is a classic case of improper hindsight reconstruction in which the Examiner, using applicant's own disclosure and claims as a blueprint, tries to pick isolated elements from different references which can be combined to produce the invention. Neither Callison et al. nor Yao et al. even remotely suggests such a combination, and the rejection is clearly improper.

Moreover, even if the teachings of Callison et al. and Yao et al. were combined in the manner suggested by the Examiner, they still would not provide applicant's invention. The claims do not simply call for a data allocation table or a data allocation table combined with a memory controller. They call for very specific structure which is not found in the references, *i.e.* a data allocation table stored in a cache which is coupled to the memory controller.

Claim 1 is directed to a memory matrix module for use in a data network, and it distinguishes over the teachings of Callison et al. and Yao et al. in calling for at least one memory array having a plurality of memory devices arranged in banks, at least one memory controller coupled to the memory array, and a cache coupled to the memory controller and having stored therein one or more copies of a data allocation table (DAT) adapted to describe data stored in the memory devices. This memory structure is neither found in nor suggested by the references, and the rejection is clearly erroneous.

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Claim 5 depends from Claim 1 and is directed to patentable subject matter for the same reasons as its parent claim. In addition, it further specifies that the memory devices comprise random access memory (RAM) devices.

Claim 6 is directed to a memory system for storing data for use in a network, and distinguishes over Callison et al. and Yao et al. in calling for at least one memory matrix unit having at least one memory subsystem which includes a memory array having a plurality of memory devices arranged in a plurality of banks, a memory controller coupled to the memory array for accessing the memory devices, and a cache coupled to the memory controller, the cache having stored therein one or more copies of a data allocation table (DAT) adapted to describe data stored in the memory devices. In further calls for at least one management unit coupled to at least one memory matrix unit and to the data network to interface between the memory matrix unit and the data network. The references fail to disclose or even suggest a memory system having this structure.

Claims 10 - 16 and 22 all depend from Claim 6 and are directed to patentable subject matter for the same reasons as their parent claim. In addition, they call for other features not found in the references.

Claim 10 specifies that the memory devices comprise random access memory (RAM) devices, and Claim 11 calls for a non-volatile storage unit having at least one non-volatile storage device to provide backup of data stored in the memory matrix unit.

Claim 12 defines the non-volatile storage unit as comprising a magnetic, optical, or magnetic-optical disk drive; Claim 13 defines it comprising as a plurality of hard disk drives, and further specifies that the hard disk drives are connected in a RAID configuration to provide mirrored copies of data in at least one memory matrix unit; Claim 14 defines it as comprising a plurality of hard disk drives, and further specifies that the hard disk drives are connected in a RAID Level 0 configuration to reduce the time to backup data in at least one memory matrix unit; and Claim 15 defines it as comprising a plurality of hard disk drives, and further specifies that the hard disk drives

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comprise a hard disk drive adapted to create a continuous backup of data in at least one memory matrix unit on a periodic basis.

Claim 16 further distinguishes in calling for an off-line storage unit having removable storage media to provide off-line storage of data stored in at least one memory matrix unit, and Claim 22 specifies that the data network is based on either physical wire or wireless connections.

Claims 2 - 4 and 7 - 9 have been rejected under 35 U.S.C. §103 as being unpatentable over Callison et al., Yao et al., and Chen et al. (U.S. 4,901,203). Those claims depend from Claims 1 and 6 and are directed to patentable subject matter for the same reasons as their parent claims.

In making this rejection, the Examiner has acknowledged that Callison et al. and Yao et al. fail to teach the use of multiple ports to enable the memory controller/network to access different devices in different banks simultaneously, and he relies upon Chen et al. as showing memory banks which are independently accessible and parallel. However, even if Chen et al. does shown memory banks which are independently accessible and parallel, it does not suggest using such banks in a memory system having the other features of applicant's invention.

Claims 2 and 7 clearly distinguishes over the references in specifying that each of the banks has multiple ports, and in further specifying that the multiple ports and the DAT in the cache enable the memory controller to access different memory devices in different banks simultaneously.

Claims 3 and 8 specify that the data network is configured to connect a plurality of data processing systems to the memory system, and further specify that the memory matrix module or system is configured to enable different data processing systems to access the memory array simultaneously.

Claims 4 and 9 specify that the memory matrix module is configured to enable a first data processing system to write to the memory array while simultaneously a second data processing system reads from the memory array.

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Claims 17 - 21 have been rejected under 35 U.S.C. §103 as being unpatentable over Callison et al., Yao et al., and Jardine et al. (U.S. 6,195,754). Those claims depend from Claim 6 and are directed to patentable subject matter for the same reasons as their parent claim.

In making that rejection, the Examiner acknowledges that Callison et al. and Yao et al. fail to disclose an uninterruptable power supply and the other elements found in Claims 17 - 21, and he relies upon Jardine et al. as showing those features. However, Jardine et al. does not suggest utilizing either an uninterruptable power supply or the other features in a memory system having the other features of applicant's invention.

Claim 17 distinguishes over the references in calling for an uninterruptible power supply (UPS) configured to supply power to at least one management unit, at least one memory matrix unit, the non-volatile storage unit, and the off-line storage unit from an electrical power line, and, in the event of a variation in power from the electrical power line, to provide power from a battery.

Claim 18 depends from Claim 17 and further specifies that the UPS is configured to transmit a signal to the management unit on variation of power from the electrical power line exceeding a first predetermined amount, and that the management unit is configured to create a backup copy of at least one memory matrix unit in the non-volatile storage unit.

Claim 19 depends from Claim 18 and further specifies that at least one management unit is further configured to signal users of the memory system in the data network and perform a controlled shutdown of the memory system upon variation of power from the electrical power line exceeding a second predetermined amount.

Claim also 20 depends from Claim 18 and further specifies that at least one management unit is further configured, on restoration of power from the electrical power line, to restore the contents of at least one memory matrix unit from the backup copy of the memory matrix stored in the non-volatile storage unit, reactivate the memory
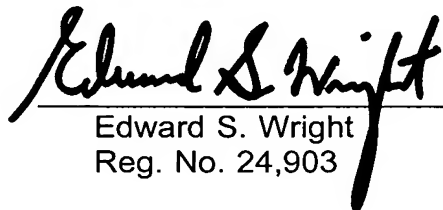
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matrix as a primary memory, reactivate other memory matrixes as secondary memories if previously configured as secondary memories, and reactivate the non-volatile storage unit as a secondary memory, thereby returning the memory system to normal operating condition.

Claim 21 depends from Claim 20 and further specifies that at least one management unit is further configured on restoration of power from the electrical power line, if the non-volatile storage unit is unavailable, to restore at least one memory matrix unit directly from another backup copy of the memory matrix unit stored in removable storage media in an off-line storage unit.

With this amendment, it is respectfully submitted that Claims 1 - 22 are all directed to patentable subject matter and that the application is in condition for allowance.

The Commissioner is authorized to charge any fees required in this matter, including extension fees, to Deposit Account 50-2319, Order No. A-69632/ESW.

Respectfully submitted,

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